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Demonstration Grant Program has Limited Impact on National Solid Waste Disposal Problem. (Report to the Congress)

Comptroller General of the United States

Prepared for

Environmental Protection Agency, Washington, D C

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REPORT TO THE CONGRESS

Demonstration Grant Program Has Limited Impact On National Solid Waste Disposal Problem

Environmental Protection Agency

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

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This report is sent to you because of your indicated interest in the work of the U.S. General Accounting Office.

The report presents the results of a GAO review of a Federal program to develop new and improved methods of solid waste disposal. The primary purpose of the review was to evaluate the impact of the program [illegible] solid waste disposal problems.

[illegible] in the front of the report highlights the principal findings, conclusions, and recommendations growing out of the GAO review.

The report is one of several reports sent by the Comptroller General of the United States to the Congress during February 1973. Additional copies are available on request for student use.

Director, Office of Policy
and Program Planning
U.S. General Accounting Office
441 G St., NW.
Washington, D.C. 20548

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-166506

To the President of the Senate and the
Speaker of the House of Representatives

This is our report on the limited impact of the Environmental Protection Agency's demonstration grant program on the national solid waste disposal problem.

Our review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Director, Office of Management and Budget; the Chairman, Council on Environmental Quality; and the Administrator of the Environmental Protection Agency.

Elmer B. Staats

Comptroller General
of the United States

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ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office
HEW	Department of Health, Education, and Welfare
OSWMP	Office of Solid Waste Management Programs

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More than 3.5 billion tons of solid wastes--such as abandoned cars, discarded bottles and cans, and paper--accumulate in the United States each year. About $4.5 billion is spent annually to dispose of wastes from these sources. The most common methods of solid waste disposal are landfill and incineration. A survey has shown that: 94 percent of landfills used were inadequate because the wastes were not covered daily or were burned in the open, and that 75 percent of the incinerators used were inadequate because they did not reduce waste efficiently or because they caused air pollution. In view of these facts and of the increasing public and congressional concern over solid waste disposal, GAO reviewed the effectiveness of the Federal grant program conducted by the Office of Solid Waste Management Programs for demonstrating new and improved means of solid waste disposal.

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COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

DEMONSTRATION GRANT PROGRAM HAS LIMITED IMPACT ON NATIONAL SOLID WASTE DISPOSAL PROBLEM

Office of Solid Waste Management Programs,
Environmental Protection Agency B-166506

D I G E S T

WHY THE REVIEW WAS MADE

This is the first General Accounting Office (GAO) report on what is sometimes called the third pollution--solid waste.

More than 3.5 billion tons of solid wastes--such as abandoned cars, discarded bottles and cans, and paper--accumulate in the United States each year. Residential, commercial, and industrial wastes represent about 10 percent of the total. About $4.5 billion is spent annually to dispose of wastes from these sources.

The most common methods of solid waste disposal are landfill and incineration. A survey by the Office of Solid Waste Management Programs of the Environmental Protection Agency (EPA)[1] showed that:

--94 percent of landfills used were inadequate because the wastes were not covered daily or were burned in the open.

--75 percent of the incinerators used were inadequate because they did not reduce waste efficiently or because they caused air pollution.
(See p. 5.)

In view of these facts and of the increasing public and congressional concern over solid waste disposal, GAO reviewed the effectiveness of the Federal grant program conducted by the Office of Solid Waste Management Programs for demonstrating new and improved means of solid waste disposal.

FINDINGS AND CONCLUSIONS

The grant program has been beneficial in improving existing technology to a limited extent, in stimulating public interest in proper solid waste disposal methods, and in solving a number of local solid waste disposal problems. Greater benefits could have been achieved if more emphasis had been placed on developing methods of recovering natural resources from waste for reuse (recycling) and on new or improved and more economical methods of disposal.

The grant program was supposed to be the primary mechanism to test newly developed solid waste disposal technology on a full-scale basis; however, GAO found that:

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[1]The Environmental Protection Agency became effective on December 2, 1970, in accordance with Reorganization Plan No. 3 of 1970. Prior to that date, the Office of Solid Waste Management Programs was known as the Bureau of Solid Waste Management in the Department of Health, Education, and Welfare.

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--Few grants had been awarded for projects primarily concerned with recycling. (See pp. 14 and 15.)

--Some grants for projects to demonstrate new and improved techniques were, in reality, merely refinements of existing disposal methods. (See pp. 15 to 20.)

--The equipment or facility funded by a program grant to demonstrate new methods or uses was not used by the grantee in the intended manner. (See pp. 21 to 24.)

In the last two situations, the grants, in effect, provided financial assistance to communities to solve local problems but had limited benefit of national or regional significance.

As a result, the demonstration grant program has had only a limited impact on the national solid waste disposal problem. GAO attributes the limited effectiveness of the program to the failure of the Office of Solid Waste Management Programs to:

--Establish specific program objectives.

--Develop a systematic method for establishing priorities and for making specific program needs known to prospective grant applicants.

--Provide criteria or guidance for its staff to use in reviewing and approving grant applications. (See pp. 12 and 13.)

Other factors contributing to the limited effectiveness of the program were as follows:

--The Office did not obtain timely reports on several completed demonstration grant projects. For projects for which reports were obtained, results were not disseminated to potential users. (See p. 25.)

--The Office did not have a formal training program for new project officers, nor did it have formal written policies concerning the functions, duties, and responsibilities of the officers.

--Project officers generally were commissioned officers of the U.S. Public Health Service who were fulfilling 2-year military obligations. Many project officers resigned when they had fulfilled their military obligations.

The project officers for 20 projects GAO visited had been assigned to the projects for an average 9 months, although most of the projects had been in progress for more than 2 years. Of the projects, 19 had three or more project officers assigned during the grant periods. One of the projects had five project officers assigned over a 17-month period.

Because of the high turnover of project officers and because of their inexperience, project officers frequently were not able to provide local government units receiving grants with requested technical or financial guidance. (See pp. 26 and 27.)

As of December 31, 1970, the Office of Solid Waste Management Programs had awarded 26 grants, totaling about $1,635,000, for study and investigation projects, the principal purpose of which was the development of solid waste disposal plans for a municipality or region. GAO found that, even though a number of grants had been awarded for projects having the same general objective, the Office did not have a policy of following up on the plans developed to ascertain whether the plans were implemented. (See pp. 28 and 29.)

RECOMMENDATIONS OR SUGGESTIONS

The Administrator, EPA, should:

--Establish specific goals for the demonstration grant program and a plan for accomplishing the goals.

--Establish criteria for evaluation of project proposals to ensure that they will meet the established goals.

--Identify priorities and establish procedures to ensure that the priorities are made known to prospective grant applicants.

--Establish procedures to ensure that facilities and equipment are being used for their intended purposes and that project results are obtained, evaluated, and disseminated to potential users on a timely basis.

--Place greater emphasis on the selection of civilian personnel as project officers.

--Promulgate formal written policies on the functions, duties, and responsibilities of project officers and establish a basic orientation and training program for new officers.

--Require that office personnel follow up on actions taken by grantees to implement plans developed under all completed study and investigation projects.

In establishing goals and priorities, the Administrator, EPA, should place greater emphasis on the need to develop and demonstrate new methods, devices, and techniques of solid waste disposal--particularly those related to resource recovery and recycling--which have potential for national or widespread use.

AGENCY ACTIONS AND UNRESOLVED ISSUES

EPA generally has agreed with GAO's proposals and has taken, or plans to take, appropriate steps to implement them. (See app. I.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

This report is part of a continuing effort by GAO to keep the Congress informed of the effectiveness of Federal programs in improving the quality of the environment.

In October 1970, while GAO's review was in progress, the Solid Waste Disposal Act of 1965 was amended by enactment of the Resource Recovery Act of 1970. Although GAO's review covered demonstration grant projects awarded under the 1965 act, the corrective action proposed by GAO is needed to efficiently and effectively administer the demonstration grant program under the Resource Recovery Act of 1970. GAO plans to follow up on the matters discussed in this report by reviewing EPA's solid waste disposal program as carried out under the Resource Recovery Act.

CHAPTER 1

INTRODUCTION AND SCOPE

Environmental degradation has become a matter of great concern in recent years. Much has been written about air and water pollution and, more recently, about the ever-increasing volume of solid wastes--abandoned automobiles; discarded bottles and cans; and, of course, paper--which can be seen everywhere.

More than 3.5 billion tons of solid wastes are generated in the United States each year. About 2 billion tons come from agricultural and animal wastes, 1.1 billion tons from mineral processing, 250 million tons from residential and commercial sources, and 110 million tons from industry. Although wastes from residential, commercial, and industrial sources represent only 10 percent of the total, about $4.5 billion is spent annually to dispose of these wastes. Collection and transportation costs account for about 75 percent of that expenditure.

The most common methods of solid waste disposal are, and have been for many years, landfill and incineration--which account for the disposal of about 98 percent of the wastes from residential, commercial, and industrial sources. According to a 1968 survey by the Office of Solid Waste Management Programs (OSWMP), Environmental Protection Agency[1], which is responsible for administering the Federal solid waste management program, 94 percent of the landfills used were inadequate because the wastes were not covered daily or were burned in the open. The survey showed also that 75 percent of the incinerators used were inadequate because they did not reduce waste efficiently or because they caused air pollution.

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[1] The Environmental Protection Agency became effective on December 2, 1970, in accordance with Reorganization Plan No. 3 of 1970. Prior to that date, the Office of Solid Waste Management Programs was known as the Bureau of Solid Waste Management in the Department of Health, Education, and Welfare (HEW).

LEGISLATION

The Solid Waste Disposal Act of 1965 (42 U.S.C. 3251) was the first major legislation directing a national attack on the mounting problem of solid waste. The purposes of the act were:

> "(1) to initiate and accelerate a national research and development program for new and improved methods of proper and economic solid waste disposal, including studies directed toward the conservation of natural resources by reducing the amount of waste and unsalvageable materials and by recovery and utilization of potential resources in solid wastes, and
>
> "(2) to provide technical and financial assistance to State and local governments and interstate agencies in the planning, development, and conduct of solid waste disposal programs."

The act authorized a solid waste disposal program to be carried out under research, planning, training, and demonstration grants and under certain OSWMP in-house activities. The act defined "solid waste" as garbage, refuse, and other discarded solid material, including materials from industrial, commercial, agricultural, and community activities. "Solid waste disposal" was defined as collection, storage, treatment, utilization, processing, and final disposition of solid wastes.

In October 1970, the Solid Waste Disposal Act was amended by enactment of the Resource Recovery Act of 1970, which reemphasized that demonstration grants were to be awarded for projects related to resource recovery systems or new and improved methods of solid waste disposal. (See p. 31.)

DEMONSTRATION GRANT PROGRAM

The Solid Waste Disposal Act provided for a demonstration grant program and authorized Federal funding up to two thirds of the estimated total project costs for the support of (1) projects demonstrating new and improved methods,

devices, and techniques of solid waste disposal, (2) studies and investigations of municipal and regional solid waste disposal problems, practices, and programs, and (3) studies and investigations of specific solid waste disposal problems.

As of December 31, 1970, OSWMP had awarded Federal grants of about $22.7 million for 127 projects--$15.8 million for 55 demonstration projects and $6.9 million for 72 study and investigation projects. The major distinction between demonstration projects and study and investigation projects is the purpose for which the funds are provided. A significant amount of the grants for demonstration projects generally are used for the construction of facilities or the purchase of equipment, whereas, generally little or none of the grant funds for study and investigation projects are used for construction or equipment.

We examined into the effectiveness of the OSWMP demonstration grant program. Our review was conducted at OSWMP headquarters in Washington, D.C., and at Cincinnati, Ohio. We also visited 20 demonstration grant project sites in 12 states--California, Connecticut, Florida, Georgia, Illinois, Indiana, Missouri, New York, Ohio, Pennsylvania, Washington, and Wisconsin--and in the District of Columbia. We reviewed legislation, pertinent documents, reports, records, and files and held discussions with responsible OSWMP officials and grantee representatives.

The 20 projects visited included the 11 projects for which demonstration grants in excess of $400,000 had been awarded and nine projects for which grants of less than $400,000 had been awarded. The grants for the 20 projects amounted to about $11.6 million, or 51 percent of the demonstration grants awarded.

The 20 projects were approved during fiscal years 1966 through 1969. Most of the projects, which had received OSWMP grant assistance over a 3- to 5-year period, had been completed by December 31, 1970.

CHAPTER 2

LIMITED IMPACT OF THE DEMONSTRATION GRANT PROGRAM ON THE NATIONAL SOLID WASTE DISPOSAL PROBLEM

The major goal of the Solid Waste Disposal Act was to provide a Federal program to aid in the development of new and improved methods of solid waste disposal, including reduction of the amount of solid wastes and recovery and reuse of recyclable solid waste material. In August 1965 the House Committee on Interstate and Foreign Commerce, in commenting on the proposed Solid Waste Disposal Act, stated:

> "In the opinion of the committee, immediate action must be taken to initiate a national program directed toward finding and applying new solutions to the waste disposal problem.
>
> "*** A primary need is for a national research program *** to develop improved methods of solid waste disposal, particularly methods of reusing materials of potential economic value. The time gap between research and its application must be narrowed. This can best be accomplished by establishing demonstration projects ***." (Underscoring supplied.)

Also in August 1965 the Under Secretary of the Department of Health, Education, and Welfare stated:

> "What is needed at this point is *** not a large-scale Federal construction grant program to build more disposal plants of the type now in use, for these are not the answer to the problems. Very few technological advances have been made in this field in recent years ***. We need to develop new methods of conversion and of safe, healthful, and economic utilization of solid wastes. And we must narrow the time gap between research and its application. This can best be accomplished by establishing demonstration projects on an operating scale." (Underscoring supplied.)

In 1968 the Senate Committee on Public Works, in its report on the Solid Waste Disposal Act Amendment of 1968, stated that the only long-term solution to the solid waste problem was a shift from the use-and-discard approach to a closed cycle of use, salvage, reprocess, and reuse. The report stated also that the solid waste disposal methods of the past must be improved and new methods must be developed.

Thus it appears to us that the Congress intended that the Federal Government provide leadership and stimulation to the development and application of (1) new and improved methods, techniques, and processes of solid waste disposal and (2) resource recovery and reuse. The demonstration grant program was to be the primary mechanism through which newly developed solid waste disposal technology would be tested on a full-scale basis for technical and economic feasibility.

Our review showed, however, that the demonstration grant program had only a limited impact on the national solid waste disposal problem because (1) some grants awarded by OSWMP, ostensibly for projects to demonstrate new and improved techniques, were in reality merely for refinements of existing disposal methods and (2) in other cases involving potential innovations, the equipment or facility funded by the OSWMP grant had been used by the grantees in a manner other than that contemplated by OSWMP. In both cases the grants, in effect, represented financial assistance to communities for solving local problems but contributed few benefits of national or regional significance.

As of December 31, 1970, most of the grants had been awarded for projects related to existing disposal methods (incineration, sanitary landfill, or composting) rather than to resource recovery and reuse (recycling), even though recycling was cited by many as the only long-term solution to the solid waste problem.

Our review of OSWMP's administration of the demonstration grant program has shown that the principal deterrents to greater effectiveness have been OSWMP's failure to establish specific program goals and related priorities to accomplish the goals, its corresponding failure to inform prospective grant applicants of specific program needs so

that their proposed projects could be structured to be responsive to those needs, and its lack of specific criteria or guidance for use by OSWMP personnel in reviewing grant applications to ensure that they conform to program objectives.

Also contributing to the limited effectiveness of the program were OSWMP's inordinate delays in obtaining and evaluating final reports on completed projects and in disseminating the results to potential users, OSWMP's insufficient training and tenure of project officers, and OSWMP's failure to follow upon the implementation by grantees of plans developed as a result of study and investigation projects.

Although the demonstration grant program has been beneficial in improving existing technology to a limited extent, in stimulating public interest in proper solid waste disposal methods, and in solving a number of local solid waste problems, we believe that, in view of the limited funds available, greater benefits could have been obtained had OSWMP placed greater emphasis on methods of resource recovery and reuse and on more innovative and economical methods of disposal.

ORGANIZATIONAL INSTABILITY

In commenting on the matters discussed in this report, OSWMP officials stated that these matters should have been considered in light of the following organizational changes which occured after passage of the Solid Waste Disposal Act.

Period	Activity title	Responsible organization
Jan. 1966 to Dec. 1966	Demonstration Branch	Office of Solid Waste, Public Health Service, HEW, Washington, D.C.
Jan. 1967 to June 1967	Demonstration Activities	Solid Wastes Program, Public Service, HEW, Chevy Chase, Md.
July 1967 to Jan. 1969	Demonstration Grant Activities	Solid Wastes Program, Public Health Service, HEW, Cincinnati
Feb. 1969 to Nov. 1970	Division of Demonstration Operations	Bureau of Solid Waste Management, Public Health Service, HEW, Cincinnati
Dec. 1970 to April 1971	Division of Demonstration Operations	Solid Waste Management Office, EPA, Cincinnati
May 1971 to Nov. 1971 (note a)	Division of Demonstration Operations	Office of Solid Waste Management Programs, Office of Categorical Programs, EPA, Cincinnati

[a]Effective December 1, 1971, the Division of Demonstration Operations was abolished. The activities of the Division were assigned to three newly established divisions--Systems Management, Resource Recovery, and Processing and Disposal.

From January 1966 through November 1971, the top official charged with overall administration of the solid waste program has been changed five times. (See p. 40.) During the same period the official responsible for the demonstration grant program has been changed four times. Although the scope of our review did not include a detailed study of the effects of the reorganizations and personnel changes, we believe that they had a detrimental, though somewhat intangible, effect on the administration and effectiveness of OSWMP's demonstration grant program. We mention the organizational and personnel changes to put in proper perspective the matters discussed in the following sections.

NEED TO ESTABLISH SPECIFIC PROGRAM OBJECTIVES AND PRIORITIES

Although the 1965 act, the 1968 amendment to the act, and the legislative history of each provided a rather specific mandate as to what the act was intended to accomplish (see p. 8), we found that OSWMP had not formally implemented this mandate by establishing and promulgating demonstration grant program objectives and establishing priorities for attaining the objectives. We found also that some confusion existed among OSWMP personnel as to the primary goals of the demonstration grant program.

Generally grant applicants submitted proposals for grant assistance on an unsolicited basis, and OSWMP personnel acted on the proposals as they were submitted. We believe, however, that the program could have been more effective had OSWMP personnel established program objectives and priorities and actively sought grant applications on the basis of the established priorities. In April 1971 an EPA Grants Procedural Task Group, in commenting on this matter, stated that "the Office has, therefore, placed itself in the position of reacting to events rather than setting a course of action."

OSWMP personnel charged with reviewing and evaluating applications were under a handicap because of the lack of criteria or guidance. For example, although one purpose for awarding grants was the demonstration of new and improved solid waste disposal methods, devices, or techniques, OSWMP did not define "new and improved." We noted several cases in which OSWMP reviewers concluded that proposed projects would not demonstrate anything significantly new or improved and recommended disapproval, only to have the proposals approved at a higher level.

Our inquiries of knowledgeable high-level OSWMP officials as to their understanding of the principal objectives of the program brought out widely divergent views. One official told us that the purpose of the program was to demonstrate new and improved methods of solid waste disposal, including systems for recovery and recycling of useful waste and for reduction in the amount of waste generated. He said that financial assistance was limited to projects involving new or improved methods of solid waste disposal.

A second official told us that few demonstration grant projects involved new techniques or methods of solid waste disposal. He said that the solid waste disposal problem was not necessarily the result of inadequate disposal technology but was due to misconceptions, lack of knowledge, and lack of interest on the part of State and local officials. The official stated that demonstration grant projects were to be not only a means of testing research findings but also a means of demonstrating that existing technology could be used to satisfactorily resolve most solid waste disposal problems. He expressed the belief that the proper application of existing disposal technology could solve up to 80 percent of the country's solid waste problems.

Few projects concerned with recycling

As mentioned earlier, recycling of solid wastes has been cited by many, including the Senate Committee on Public Works, as the only long-term solution to the solid waste problem. Yet, according to a classification of demonstration program grant awards developed by OSWMP, few of the projects were concerned primarily with recycling. The following table shows, by principal purposes of the projects, the grants awarded as of December 31, 1970.

Solid Waste Demonstration Grants Awarded as of December 31, 1970

Classification by principal purpose	Number of grants			Amount of grants		
	Study/ investigation	Demonstration	Total	Study/ investigation	Demonstration	Total
				(000 omitted)		
Existing methods of disposal:						
Incineration	11	13	24	$ 918	$ 4,534	$ 5,452
Sanitary landfill	6	12	18	676	3,646	4,322
Composting	3	3	6	874	1,538	2,412
	20	28	48	2,468	9,718	12,186
Other:						
Regional and municipal programs	26	-	26	1,635	-	1,635
Processes to facilitate disposal	4	9	13	665	2,907	3,572
Recycling	4	5	9	446	1,235	1,681
Collection, storage, and transportation	4	8	12	407	1,033	1,440
Systems analysis	6	-	6	843	-	843
Miscellaneous	8	5	13	482	885	1,367
	52	27	79	4,478	6,060	10,538
Total	72	55	127	$6,946	$15,778	$22,724

The table shows that 48 grants, totaling about $12.2 million, were awarded for projects related to existing methods of solid waste disposal--sanitary landfill, incineration, and composting. In addition, 26 grants, totaling about $1.6 million, were awarded for studies and investigations, for which the principal purpose was to develop solid waste disposal plans for a municipality or a region by using existing technology.

Only nine grants, totaling $1.6 million, were awarded for projects dealing with recycling, however, and only 12 grants, totaling $1.4 million, involved projects demonstrating collection and transportation techniques, even though collection and transportation costs represented about 75 percent of the total funds spent annually on solid waste management in the United States. In our opinion, this apparent misdirection of emphasis was directly attributable to the absence of specific goals and priorities for the use of program resources.

Many projects concerned with refining existing disposal methods

On the basis of our review, which included visits to 20 demonstration project sites, we believe that many demonstration grants were awarded for projects that merely refined existing disposal methods and provided financial assistance to communities to solve local problems--with little benefits to solution of the national solid waste disposal problem. The following examples are illustrative of the situations that we found at the project sites visited.

Example 1

This project was approved by OSWMP in November 1967. Its stated purpose was to demonstrate that a tried and proven method of solid waste disposal--sanitary landfill--could be used to convert an open burning dump into a recreation area. The estimated cost of the project was $2,410,711 of which the Federal share was $992,247. The Federal share did not include costs for the recreational facilities.

An OSWMP staff reviewer, in commenting on the grant application, stated that the applicant proposed to provide an expensive interim solution to the applicant's worst solid waste problem and that

> "*** the project will not demonstrate anything new or improved since conventional landfilling operations which are well established will be utilized."

Prior to approval of the project, for 25 years the city had been disposing of much of its refuse in an open burning dump within the city limits. This contributed to air pollution, caused health hazards, and was unsightly. The project plan required the grantee to use a private contractor, nationally recognized and experienced in the operation of sanitary landfills, to operate the landfill in accordance with the best sanitary landfill standards and practices as determined by the U.S. Public Health Service and the American Public Works Association.

The grantee's project director who accompanied us on our visit to the project site told us that conventional sanitary landfill techniques and equipment were being used. Actual landfilling operations were completed in October 1969. Although the project accomplished the purpose of converting an open dump into a recreational area and, to that extent, benefited one community, we believe that the project contributed little to solving the national solid waste disposal problem. The project did not contribute to a permanent solution of the community's solid waste disposal problem because the community did not have additional sites for sanitary landfills and, consequently, was seeking alternative methods of solid waste disposal.

OSWMP officials told us that the principal purpose of this project was to gain public acceptance of sanitary landfill methods in large cities. We noted that OSWMP later rejected several applications for similar projects on the basis that they, in effect, were merely requests for financial assistance in resolving local solid waste disposal problems.

Example 2

The stated purposes of this project were to (1) test and demonstrate a newly developed machine which was designed to excavate a trench, receive refuse, compact it, discharge it into the trench, and cover it with compacted earth to final grades and (2) demonstrate the feasibility and advantages of consolidating and centralizing various public, private, and industrial solid waste disposal activities into one regional solid waste management authority. The estimated project cost was $915,604, of which the Federal share was $610,403.

The newly developed machine was originally designed as a pilot model for a town with a population of 40,000. The town was under contractual obligation to purchase the machine which was built in 1963 and which was tested by the manufacturer and was proven successful for its designed use. In July 1966 the town applied for a demonstration grant to help finance the cost of the machine. The application was disapproved by OSWMP on the basis that the town's contractual obligation had existed prior to the enactment of the Solid Waste Disposal Act of 1965.

In December 1966 a countywide disposal agency was created which included several cities, villages, and towns having a combined population of 250,000. The agency included the town for which the machine was originally designed. In February 1967 the countywide agency submitted an application for a demonstration grant to include part of the cost of purchasing the machine.

In May 1967 OSWMP approved the application subject to certain conditions, including a requirement that the grantee conduct, and report to OSWMP on, a thorough technical evaluation of the refuse machine. The project period began in June 1967 and had an estimated completion date of May 1969.

At the time of our visit to the project site in March 1970, the refuse machine was not in operation and had not been operated since September 1969 because of numerous mechanical problems. According to the manufacturer the machine was designed to dispose of solid waste from a community of 40,000 people--not 250,000.

Although the manufacturer had operated the machine successfully and had accumulated test data related to the disposal of wastes of 40,000 people, we found no indication that OSWMP had made any attempt to obtain or analyze this data before awarding the grant to the countywide agency. We also noted that the attempt to establish a countywide agency had achieved only limited success because the agency had no authority to require towns to participate. As of March 1971 OSWMP had not received any of the required reports on the results of the project.

We question the need for OSWMP's participation in the cost of the machine because it seems to us that OSWMP, prior to awarding the grant, could have obtained information on the machine's performance from the manufacturer or the town for which it was originally designed. Furthermore, because the machine was designed to dispose of the waste from a community of 40,000 and was used unsuccessfully to dispose of the wastes of a county with a population of 250,000, it was not possible to evaluate fairly the machine's effectiveness in performing as designed. Thus there was little benefit to OSWMP or to the community as a result of the demonstration grant funds used to purchase the machine.

Example 3

The stated objectives of this project were to demonstrate the reliability, suitability, economic feasibility, and sanitary and nuisance-free operation of a recently developed, high-rate, mechanical composting system for the disposal of municipal refuse from a medium-sized community. The project was approved by OSWMP in June 1966 for Federal funding of $1,451,185. The total estimated project costs were $2,233,700.

In considering the grant application, two of OSWMP's staff reviewers noted that the proposed project was for the

construction of a composting plant for refuse and raw sewage sludge using a waste conversion system of the type being operated on a smaller scale at one location and being constructed on a larger scale at another location in a large southwestern city. According to the staff reviewers, this would be the third plant of its kind in the United States. They also stated that OSWMP was conducting a research project that included the use of thickened raw sludge in a slightly different composting project.

The OSWMP reviewers recommended that the project be disapproved because the particular composting process involved was being demonstrated at two other locations and because the use of raw sewage sludge in refuse composting would be demonstrated in OSWMP's own research project. They concluded that the main benefits to be gained from the proposed project would be cost-data and chemical and microbiological studies which could be more economically obtained from the existing composting plants, such as the one in the large southwestern city. We found that the pertinent grant records contained no information as to OSWMP's reasons for approving the project in light of the reviewers' recommendations.

The demonstration plant began operating in January 1968 and continued through December 1969--the end of the grant period. During that period only 10 percent of the compost produced at the plant was sold. The rest was donated to public institutions, stored at the plant, or used as fill at a stone quarry.

The plant was closed at the end of the grant period but was reopened in October 1970 with financial aid from the county. At the time of our visit in November 1970, most of the compost being produced at the plant was being used as fill at the stone quarry because there was no market for it.

During our visit OSWMP project officials told us that the project was needed to provide data which would not otherwise have been available from the privately owned and operated plants. They said that the private corporation involved in these two compost plants would not have been willing to reveal technological and cost data needed for an adequate evaluation of the waste-conversion process.

We found no indication that OSWMP had considered obtaining this data from the private corporation or that OSWMP had fully considered whether their own in-house research project would provide the needed data. This grant in the final analysis primarily represented financial assistance to a community to solve a local problem.

EQUIPMENT NOT USED FOR INTENDED PURPOSES

One of the factors considered by OSWMP in determining the desirability of demonstration projects was the potential for general application of the methods, devices, or techniques to be demonstrated. Two of the 20 projects we visited were related to the incineration of bulky solid waste. OSWMP personnel, in commenting on the grant applications, stated that, since all communities were confronted with such wastes, there was a need to demonstrate the feasibility of burning bulky solid wastes. We found, however, that the equipment at both of these projects was not being used for the purposes for which it was intended.

The objectives of the first project were to (1) determine the feasibility of burning, in a multipurpose incinerator, solid wastes that generally were too bulky or volatile for conventional incinerators and (2) demonstrate the practicability of using an electrostatic precipitator to meet State and Federal air pollution criteria. The estimated project cost was $1.5 million, of which the Federal share was $728,499.

The incinerator was designed to handle automobile bodies, highly volatile liquid industrial wastes, and other oversized burnable wastes--such as logs, stumps, brush, demolition lumber, furniture, and tires.

In recommending approval of the grant application, an OSWMP review panel acknowledged that there was a real need to construct a multipurpose incinerator to demonstrate the feasibility of burning solid wastes that were normally too bulky or volatile for a conventional incinerator. The project was approved in June 1966. Construction was begun officially in March 1968.

The grantee began operating the multipurpose incinerator in September 1969, but operational failures, due mainly to construction and manufacturing defects, required the operations to be stopped in November 1969. Full-scale operation of the incinerator was resumed by the grantee in March 1970. During our visit to the project in November 1970, we saw that raw, wet refuse and other household solid wastes were being fed into the incinerator and that relatively little dry bulky refuse was being burned.

Grantee representatives told us that, after operations were resumed in March 1970, the incinerator had been used generally for burning the community's normal day-to-day solid wastes rather than bulky and volatile wastes because (1) a private contractor, using another method, was disposing of junk automobiles, (2) the liquid injection system used for volatile liquid industrial wastes had been tested by a consultant and found to be inefficient, and (3) disposal of the day-to-day solid waste generated by the community required the use of the multipurpose incinerator as well as the community's existing conventional incinerators.

At the time of our visit in November 1970, an evaluation of the performance of the multipurpose incinerator in terms of the project objectives could not be made because the incinerator was not being used for its intended purposes. Although OSWMP officials had requested the grantee to submit a report on the problems and malfunctions associated with the multipurpose incinerator so that others contemplating similar projects could benefit from the grantee's experience, the requested report had not been submitted.

As of March 1971 the grantee (1) still had not submitted the requested report to OSWMP on the results of the project and (2) was using the multipurpose incinerator primarily for disposal of normal day-to-day solid wastes.

The objective of the second project was to demonstrate the feasibility of reducing the size of bulky, burnable solid wastes by a heavy duty impact crusher to permit disposal by incineration, which would not otherwise have been possible because of the limited size of incinerator openings. The estimated project cost was $807,600, of which the Federal share was $538,400.

The bulk refuse crusher was an "add on" facility to a city's overall incinerator improvement program that involved the complete rehabilitation of its three existing incinerators and the construction of a new incinerator.

In its March 1967 application for assistance, the grantee noted that practically every community in the United States was plagued with the problem of what to do with such bulky, oversized wastes as old furniture, bed springs,

mattresses, carpets, washers, and dryers. The grantee stated that it alone accumulated 2,000 cubic yards of such wastes daily.

The grantee's project plans provided for the purchase of a crusher from a manufacturer that had had at least 5 years' experience in designing and building impact-type crushers for bulky items. The crusher was purchased from the manufacturer in a foreign country where it had been successfully operated for many years.

In considering the grant application in May 1967, an OSWMP staff reviewer commented that the project appeared to be in the nature of a construction-type project and that there was some doubt as to the amount of new or useful data which would result from the project.

Another OSWMP staff reviewer stated that the grantee "displayed a lack of sincerity" because it would include the crusher in the incinerator improvement program only if the grant were approved, otherwise the crusher would be the first item cut from the budget. According to the staff reviewer, the grantee "sees this as nothing more than an opportunity to obtain Federal assistance for the installation of equipment."

OSWMP approved the award of the grant in May 1967. The grantee's plans provided for the collection of all oversize solid wastes separately from general refuse for processing in the bulk refuse crusher and for the crushed bulky wastes to be burned in the existing incinerator. The grantee was required to (1) maintain records of the quantities, weight, and characteristics of wastes processed in the crusher and (2) obtain data on power consumption, maintenance and labor costs, and other costs so that the economics of the operation could be evaluated.

The operation of the crusher began in January 1970. At the time of our visit in March 1970, large bulky items were not being collected separately but were being commingled with regular household refuse and processed through the crusher. According to the grantee no data was being collected on the type, quantity, volume, or weight of bulky items processed or on the costs of operating the crusher.

In March 1971 the project officer told us that the data needed to evaluate the crusher had not been obtained because there had been an insufficient amount of bulky waste available and, as a result, the crusher had not been operating as intended. As of March 1971 no project results had been reported to OSWMP.

Neither grantee had used the project equipment for its intended purpose--only normal day-to-day wastes had been burned. Consequently OSWMP had not been able to obtain the type of information anticipated when the two projects were approved. The projects had not demonstrated anything new or improved which might have potential for general application. In our opinion, the demonstration grant funds for these two projects represented little more than financial assistance in solving local solid waste problems.

PROJECT RESULTS NOT RECEIVED AND DISSEMINATED ON A TIMELY BASIS

OSWMP regulations provide that one of the considerations in determining the desirability of demonstration projects is "the potential for general application of the methods, devices, or techniques to be demonstrated." OSWMP grant requirements provide for grantees to submit, within 6 months after projects are completed, final reports on their activities under the grants.

If the results of demonstration grant projects are to be widely utilized, it is essential that OSWMP obtain timely final reports from grantees, review and evaluate the reports, and promptly disseminate the information to potential users. We found, however, that OSWMP had not obtained timely reports on several completed demonstration grant projects. For other projects where reports were obtained, OSWMP did not disseminate the results to potential users.

As of April 1971, 66 demonstration projects had been completed and seven had been terminated by OSWMP prior to completion. OSWMP had accepted final grantee reports on 32 of the completed projects and on one terminated project. Reports on the other 34 completed projects either had not been received or were not acceptable to OSWMP, although one of the projects had been completed as long as 31 months. Of the 34 projects, 20 had been completed for 12 months or longer. Of the 33 final reports accepted by OSWMP, only nine had been published or disseminated to potential users, although interim reports on an additional 12 projects had also been published.

In January 1971 OSWMP issued regulations which, if properly implemented, should result in final reports' being submitted by grantees on a more timely basis. The regulations provide that up to 10 percent of an applicant's demonstration grant funds be withheld until OSWMP is satisfied that all grant conditions and requirements have been met. It still remains, however, for OSWMP to see that the results of demonstration projects receive wide distribution to potential users; we believe a need still exists for improvement in this aspect of OSWMP's administration.

INSUFFICIENT TRAINING AND TENURE OF PROJECT OFFICERS

Project management is a function that requires technical and managerial competence. OSWMP project officers generally were commissioned officers of the U.S. Public Health Service and were fulfilling a 2-year military obligation. Many resigned when they had fulfilled their military obligations. Most had degrees in sanitary engineering but had little or no experience--either technical or managerial--in solid waste disposal problems or practices.

Our review indicated that OSWMP had not provided adequate guidance to its project officers for carrying out their responsibilities. OSWMP did not have a formal training program for new project officers, nor did it have formal written policies concerning the functions, duties, and responsibilities of the officers. OSWMP officials told us that project officers (1) reviewed and evaluated demonstration grant applications, (2) monitored the progress of ongoing projects by making periodic site visits, and (3) provided guidance to grantees on technical and financial matters.

With regard to the lack of training, an EPA Grants Procedural Task Group,in April 1971, stated that OSWMP:

> "*** does not train its technical monitors on administrative management aspects of grant administration. Such matters include fiscal determination and property accountability requirements. Lack of basic knowledge in such management has required the project officers to spend a longer period in acquiring the knowledge than if a basic orientation program had been devised ***."

At December 31, 1970, OSWMP had eight commissioned officers serving as project officers for 56 ongoing demonstration grant projects. The project officers for the 20 projects we visited had been assigned to the projects for an average 9 months--although most of the projects had been in progress for more than 2 years. Of the projects we visited, 19 had had three or more project officers assigned during the grant

periods. One of the projects had had five project officers assigned over a 17-month period.

During our visits to project sites, we discussed with grantee representatives the role of OSWMP project officers. The grantees stated that the project officers frequently were not able to provide them with the technical or financial guidance requested. They attributed this to inexperience and to the high turnover of project officers.

This high turnover of project officers results in delay and loss of continuity in monitoring projects. During the course of an individual's assignment as project officer, he becomes familiar with the progress and problems associated with his projects. If the project officer is reassigned or resigns, a period of time is required before his successor can become sufficiently knowledgeable about the project and the program to be of assistance to the grantee.

Because of the short tour of duty (generally 2 years) that commissioned officers serve, it is probable that these project officers spend a significant portion of their tour merely becoming familiar with project information known to the previous project officers. We do not believe that this is conducive to good decisionmaking. Civilian personnel, on the other hand, are not subject to the tour-of-duty policy which applies to commissioned officers and probably could be available as project officers for longer periods of time. Civilian project officers could thus provide consistent and continuous leadership, which should result in more effective project management.

In view of the high turnover of project officers, who at the time of our review were primarily Public Health Service commissioned officers, we believe that OSWMP should place greater emphasis on the selection of civilians as project officers. We believe also that OSWMP should promulgate formal written policies on the functions, duties, and responsibilities of project officers and should establish a basic orientation and training program for new project officers.

LACK OF POLICY TO ASCERTAIN ACTIONS TAKEN BY GRANTEES AFTER COMPLETION OF STUDY AND INVESTIGATION PROJECTS

As shown on page 14, as of December 31, 1970, OSWMP had awarded 26 grants, totaling about $1,635,000, for study and investigation projects, the principal purpose of which was the development of solid waste disposal plans for a municipality or region. In view of the number of grants awarded for projects having the same general objective, we believe that OSWMP, as a matter of policy, should not only evaluate the adequacy of the plans developed by grantees but also follow up on the implementation of the plans by the grantees. Little benefit is derived from the development of good solid waste disposal plans that are not implemented.

We found that OSWMP did not have a policy of following up on the plans developed to ascertain whether the plans were implemented. In July 1970, however, OSWMP invitiated a special study to determine whether the plans developed under completed regional and municipal study and investigation projects had been or were being implemented.

As of February 1971 OSWMP had completed its study of five projects and had found that four of the grantees had implemented virtually no part of their plans. The grantees told OSWMP that the plans had not been implemented for a number of reasons, including (1) insufficient funds, (2) ineffective political organizations, (3) inadequate state laws, and (4) nonacceptance by the citizenry.

The fifth grantee, however, had amended and updated its solid waste ordinance, adopted rules and regulations for disposal operations, and established a countywide disposal district. Open burning had been eliminated, and plans for new landfills were being developed and coordinated with other land-use planning groups.

In view of the fact that four of the five grantees had not implemented the solid waste disposal plans developed with grant funds, it appears that these grants have had little impact on the solid waste disposal problem. It appears also that there is a need for OSWMP to follow up on all

study and investigation projects and to work with and encourage grantees to implement solid waste disposal plans.

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Although we found that a number of grants had been awarded for projects that did not demonstrate methods, devices, or techniques that were significantly new or improved and that there had been relatively little emphasis on recycling projects, we noted a few projects that were innovative and had the potential for providing permanent solutions to solid waste disposal problems. One such project we visited was located in Franklin, Ohio, and had received considerable publicity because of its recycling features.

In February 1969 OSWMP approved an application from the city of Franklin for a "system for total refuse disposal by fluid-mechanical separation of solid wastes and fluid bed oxidation of combustibles." The estimated project cost at March 31, 1971, was $2 million, of which the Federal share was about $1.3 million.

The plant takes the city's unsorted solid wastes, including sewage sludge from a waste treatment plant, and sorts and screens the various materials through a number of mechanical processes. The result is the conversion of much of the waste to recyclable materials such as paper fiber, ferrous metals, and glass cullet. All unreclaimed soft materials are burned, and unreclaimed hard materials are disposed of in a small sanitary landfill.

Another project we visited is located in North Tonawanda, New York, and is a pilot demonstration of a new incinerator process called pyrolysis, which is the conversion of organic matter to gases through intense heat. The incinerator takes combustible and noncombustible refuse in an as-is condition and converts it to either a gaseous product or a molten slag. This project represents a significant advancement in incinerator technology because

--air pollution is significantly less than that resulting from the conventional incineration process,

--capital and operating costs are less than those generally incurred for conventional incinerators,

--weight and volume reduction of wastes is greater than that obtained by conventional incinerators, and

--the material remaining is a sanitary residue with potential for reuse as roadfill or construction material.

CHAPTER 3

CONCLUSIONS AND AGENCY COMMENTS AND ACTIONS TAKEN

CONCLUSIONS

The success of a Federal program depends not only on technical competence but also on its effective and efficient management. Our review of the Solid Waste Demonstration Grant Program indicated a need for OSWMP to improve its management and surveillance of the program.

We found that OSWMP had not established (1) specific program goals and related priorities for accomplishing the goals, (2) procedures for informing prospective grant applicants of specific program needs, and (3) specific criteria or guidance for reviewing grant applications. As a result, even though a major purpose of the Solid Waste Disposal Act is to provide a Federal program to aid in the development of new and improved methods of solid waste disposal, many demonstration grants (1) were awarded for projects that merely provided for refining existing disposal methods and (2) provided financial assistance to communities to solve local solid waste problems.

We believe that greater benefits could have been achieved under the demonstration grant program if OSWMP had placed greater emphasis on such projects as the one in Franklin, which demonstrated resource recovery and reuse, and the one in North Tonawanda, which demonstrated a new and improved method of solid waste disposal.

In October 1970 the Congress, in passing the Resource Recovery Act, reemphasized that grants were to be awarded for projects related to resource recovery systems or new and improved methods of solid waste disposal. The act provided that grants for the construction of new or improved solid waste disposal facilities could be made only if:

> "*** the project advances the state of the art by applying new and improved techniques in reducing the environmental impact of solid waste disposal, in achieving recovery of energy or resources, or in recycling useful materials."

The act authorized for the solid waste management program for fiscal years 1971 through 1973 about $460 million, of which about $220 million was available for demonstration grants for resource recovery systems or for new and improved solid waste disposal facilities.

The specific language of the act with regard to new and improved techniques, coupled with the substantial increase in funds made available for demonstration grants, clearly conveyed the concern of the Congress in this area. It is our opinion that OSWMP, if it is to effectively and efficiently utilize its grant funds in accordance with the intent of the act, must establish specific program goals and a plan setting forth its needs and priorities for accomplishing the goals.

In addition, OSWMP needs to ensure that project equipment is used for its intended purposes and that final project reports are obtained from grantees on a timely basis, are evaluated, and are disseminated to potential users. OSWMP regulations issued in January 1971, if properly implemented, should provide the means to deal effectively with those grantees which, for one reason or another, do not comply with their grant agreements. The regulations provide for withholding up to 10 percent of an applicant's demonstration grant funds until OSWMP is satisfied that all grant conditions and requirements have been met. Such a practice should provide grantees a greater incentive to (1) utilize project equipment in accordance with its intended purposes and (2) submit final project reports on a timely basis. Once reports are received, however, there is a need to review, evaluate, and disseminate the information on a timely basis.

In view of the high turnover of project officers, who at the time of our review were primarily Public Health Service commissioned officers, and the adverse effect of such turnover on the administration of the program, we believe that OSWMP should place greater emphasis on the selection of civilians as project officers. To assist the project officers in becoming more effective in fulfilling their responsibilities, we believe that OSWMP should (1) promulgate formal written policies on the functions and duties of project officers and (2) establish a basic training program for new officers.

AGENCY COMMENTS AND ACTIONS TAKEN

In a draft report submitted in September 1971 to EPA for its comments, we proposed that the Administrator, EPA:

--Establish specific goals for the demonstration grant program and a plan for accomplishing the goals.

--Establish criteria for evaluation of project proposals to ensure that they will meet the established goals.

--Identify priorities and establish procedures to ensure that the priorities are made known to prospective grant applicants.

--Establish procedures to ensure that facilities and equipment are being used for their intended purposes and that project results are obtained, evaluated, and disseminated to potential users on a timely basis,

--Place greater emphasis on the selection of civilian personnel as project officers.

--Promulgate formal written policies on the functions, duties, and responsibilities of project officers and establish a basic orientation and training program for new officers.

--Require that OSWMP personnel follow up on actions taken by grantees to implement plans developed under all completed study and investigation projects.

We proposed also that the Administrator, in establishing goals and priorities, place greater emphasis on the need to develop and demonstrate new methods, devices, and techniques of solid waste disposal--particularly those related to resource recovery and recycling--which have potential for national or widespread use.

By letter dated November 17, 1971 (see app. I), EPA stated that it generally agreed with our proposals and that our informal observations and the report had been extremely

helpful in presenting an objective checklist of needed improvements. EPA informed us of the actions it had taken or planned to take in accordance with our proposals. We believe that the actions taken or planned, if properly implemented, should result in improved management, administration, and effectiveness of the demonstration grant program.

A draft of our report was also submitted in October 1971 to the Council on Environmental Quality. By letter dated November 23, 1971 (see app. II), the Council stated that it deferred to EPA detailed comments on our report. The Council stated, however, that it believed that EPA was pursuing a balanced program which would be effective in dealing with the solid waste disposal problem.

ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 17 1971

Mr. Edward A. Densmore, Jr.
Assistant Director, Civil Division
U.S. General Accounting Office
Room 736, Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20852

Dear Mr. Densmore:

We have reviewed the General Accounting Office Draft Report, "Limited Impact of the Demonstration Grant Program on the National Solid Waste Disposal Problem." During the past five years the Solid Waste Management Program (OSWMP) was moved organizationally several times before becoming a part of the Environmental Protection Agency (EPA). It was a relatively new program with frequently changing management expectations. It needed consistency in direction to establish agressiveness and program purpose, and this need was reflected in your findings. We have taken positive steps to strengthen the program since your review ended early this year. The program has also undergone a change in top management personnel who will be refining and supplementing the corrective actions. The informal observations of your audit team and the report have been extremely helpful to EPA and the new OSWMP management in presenting an objective checklist of needed improvements.

Specific EPA actions which relate to your recommendations are as follows:

RECOMMENDATION: Establish specific goals for the demonstration grant program, and a plan for accomplishing the goals.

ACTION TAKEN: Five-year Program Plans have been prepared, together with a detailed two-year plan which includes specific demonstration projects to be carried out, funds available for each project, and a milestone timetable for project completion. A copy of the two-year plan is available for review in the OSWMP Program Development Office.

APPENDIX I

RECOMMENDATION: Establish criteria for evaluation of project proposals to ensure that they will meet the established goals.

ACTION TAKEN: Evaluation criteria for demonstration and study and investigation projects are included in the "Rules and Regulations for Grants under Sections 203, 204, 207, 208, and 210 of the Solid Waste Disposal Act," which was published in the Federal Register on September 17, 1971. In addition to this, the Division of Demonstration Operations has developed a project rating system based on a more specific analysis of these criteria.

RECOMMENDATION: Identify priorities and establish procedures to ensure that the priorities are made known to prospective grant applicants.

ACTION TAKEN: Priorities are identified in the Program Plan and are being made known to prospective applicants through announcements in the Commerce Business Daily and selected trade journals. The Commerce Business Daily dated August 23, 1971 included Section 204 project announcements. We plan a similar announcement later this year for additional work identified in the Program Plan.

RECOMMENDATION: Establish procedures to ensure that facilities and equipment are used for their intended purposes and that project results are obtained, evaluated and disseminated to potential users in a timely manner.

ACTION TAKEN: An improved project monitoring program has been initiated, including formal inspection reports, with special attention being given to areas which have been problems in the past. Newly authorized positions should also relieve some of the past overload on project officers.

Since August, 1970, the OSWMP has had a Review and Publications Officer whose primary duty and responsibility is to manage all the review and publication activities for demonstration grant projects.

Under provisions of the new "Terms and Conditions" covering demonstration grants, final reports are now required within 90 days of the project ending date. Also, 10 percent of the grant funds may now be withheld until the grantee has satisfactorily completed the projects objectives and final report.

APPENDIX I

A "Symposium on Solid Waste Demonstration Projects" was held in May, 1971 to disseminate information on demonstration projects. Over 200 people attended and proceedings are being published. Future symposia are planned.

RECOMMENDATION: Place greater emphasis on selection of civilian personnel as project officers.

ACTION TAKEN: Plans are being made to recruit career oriented personnel, including civil service personnel, and positions are being structured to provide opportunity for upward mobility. Interdisciplinary expertise is being sought to provide competency in varied engineering disciplines, economics, law, etc.

RECOMMENDATION: Promulgate formal written policies on the functions, duties and responsibilities of project officers, and establish a basic orientation and training program for new officers.

ACTION TAKEN: The duties and responsibilities of project officers have now been developed in formal position descriptions. More emphasis is being placed on staff training such as: Solid Waste Training Courses by OSWMP Training Branch and a seminar on the new rules and regulations held for project officers on July 22 and 23, 1971. More training seminars are planned.

RECOMMENDATION: Formalize the review procedures instituted in the July, 1970 study to require that OSWMP personnel follow-up on actions taken by grantees to implement plans developed under all completed study and investigation projects.

ACTION TAKEN: The efforts already started in this area are being continued on the completed projects. Since regional planning grants are now handled by the Division of Technical Operations, this type of follow-up will not be required for future demonstration work.

RECOMMENDATION: Place greater emphasis on the need to develop and demonstrate new methods, devices and techniques of solid waste disposal - particularly those related to resource recovery and recycling - which have potential for national or wide-scale use.

ACTION TAKEN: Emphasis on new and improved techniques and on resource recovery is reflected in the Program Plan previously mentioned. Also, a contract has been awarded to the Midwest Research Institute to help determine the resource recovery systems which are now ready to be demonstrated. It cannot be overlooked, however, that there is also a need to demonstrate how to solve today's problems with the best technology available today.

In summary, we generally agree with your recommendations and appreciate the objective analysis that led to them. Your work, combined with the experience we have gained since EPA's inception, will help to assure the continued development of the Demonstration Program into the effective vehicle that we need.

We appreciate having had the opportunity to review and comment upon the draft report.

Sincerely yours,

Thomas E. Carroll
Assistant Administrator
for Planning and Management

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

NOV 23 1971

Dear Mr. Densmore:

The Council on Environmental Quality, per your request, has reviewed the General Accounting Office's report, "Limited Impact of the Demonstration Grant Program on the National Solid Waste Disposal Program."

The Council defers to the Environmental Protection Agency for detailed comments on your report. However, the Council does believe it is important to place the use of the demonstration grant program in perspective. First, there are a number of alternatives to demonstration of technology which can significantly improve current national waste management practices. Utilization of existing technology and implementation of sound management techniques can yield substantial improvements.

With respect to recycling technology a number of studies have indicated that a wide range of technical possibilities exist, but that it may well be existing economic and institutional factors which are the main impediment to recycling. A combination of Federal activities rather than just one must ultimately be utilized to alleviate the solid waste disposal problem. The Council believes that the Environmental Protection Agency is now pursuing a balanced program which will be effective in dealing with this complex problem.

Sincerely,

Russell E. Train
Chairman

Mr. Edward A. Densmore, Jr.
Assistant Director
General Accounting Office
Washington, D.C. 20548

APPENDIX III

PRINCIPAL OFFICIALS OF THE ENVIRONMENTAL PROTECTION AGENCY RESPONSIBLE FOR ADMINISTRATION OF THE ACTIVITIES DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
ADMINISTRATOR:		
William D. Ruckelshaus	Dec. 1970	Present
ASSISTANT ADMINISTRATOR FOR CATEGORICAL PROGRAMS:		
David D. Dominick	June 1971	Present
DEPUTY ASSISTANT ADMINISTRATOR FOR SOLID WASTE MANAGEMENT PROGRAMS (note a):		
Samuel Hale, Jr.	Oct. 1971	Present
Hugh Connolly (acting)	Sept. 1971	Oct. 1971
Richard Vaughn	Aug. 1967	Aug. 1971
Leo Weaver	Jan. 1967	Aug. 1967
Wesley Gilbertson	Dec. 1965	Dec. 1966

[a]The Office of Solid Waste Management Programs was transferred from the Department of Health, Education, and Welfare on December 2, 1970.

U.S. GAO, Wash., D.C.